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PART 1.—ORIGINAL ARTICLES.

Contribution to the statistics of insanity. By ARTHUR MITCHELL, M.D., LL.D., Commissioner in Lunacy for Scotland.

I. NATURE OF THE INQUIRY.

1. In this inquiry all the asylums of Scotland are regarded as one asylum, and the different institutions merely as different wards of the asylum. A patient transferred from one institution to another is thus regarded as never leaving the asylum, but merely as passing from one ward to another. The words—*the asylum*—therefore, in this paper, mean an asylum made up of all the asylums of Scotland.

2. The inquiry does not deal with the whole population of the asylum. It deals only with the patients who were admitted into it during some single and remote year, and who had never been under asylum treatment before—in other words, who were admitted during the year in question for the first time.

3. The history of each of these patients is followed from year to year down to a certain fixed period. No cognisance is taken of the existence of any other patients. The wards of the asylum might thus have been empty when these patients went into them, so far as concerns this research, and in like manner no fresh admissions need have occurred during the time over which it extends. The inquiry is limited to the new cases which presented themselves in one remote year; and, at a fixed and comparatively recent period, it is asked, what has become of these patients?—how many of them are still in the asylum?—how many of them have died there?—how many have

gone out and returned to it?—how many are out of it in life and sanity?—how many are out of it in life but in a state of insanity?—how many have died after leaving it, and what was their mental condition at the time of death? These and other such questions are asked, and as far as possible answered.

4. It is important to bear in mind that the whole history of each patient has been separately tabulated.

5. It is scarcely necessary to say that I am indebted to my official position for the means of making an inquiry of this kind.

II. General results.

1. During the year 1858, there were 1297 patients admitted for the first time into the asylum, and in the year 1870, or 12 years after, it is asked what has become of them. I am able to speak definitely regarding the condition of 1096, or about $\frac{11}{13}$ths of the whole.

2. It is found that 412 had died in the asylum, and that 273 remained in it. We thus account for 685, or about 53 per cent. There remain 612, or about 47 per cent, who had disappeared from the asylum—neither having died in it, nor being found in it at the end of the 12 years.

3. The inquiry has gone further, and an effort has been made to find out the history of the 612 patients who had disappeared from the asylum. With reference to them it has been ascertained that, at the end of the year 1869,

42 had died in a state of insanity,
78 had died in a state of sanity,
94 were living in a state of insanity,
and 197 were living in a state of sanity.

This accounts for 411 of the 612, leaving 201, regarding whose condition at the end of the 12 years no trustworthy information could be obtained.*

* From what became known to me while making this inquiry, and from knowledge otherwise acquired, I think we may safely assume that what was found to be true of the 411 would have been found to be substantially true also of the 201, had we succeeded in getting the information regarding them which

III. The results considered in their bearings on recoveries, relapses, and deaths.

1. The broader features of these results are given in the following table:—

Year.	Admitted	Discharged.			Re-admitted.	Remaining at 31 Dec. of each year.	Mean number resident.
		Recovered.	Not recovered.	Dead			
1858	1297	320	88	103	47	833	416
1859		220	55	80	91	569	701
1860		75	36	56	65	467	518
1861		45	27	32	50	413	440
1862		39	10	33	42	373	393
1863		33	11	23	34	340	356
1864		20	11	14	34	329	334
1865		22	5	19	20	303	316
1866		28	4	13	35	293	298
1867		16	6	15	29	285	289
1868		20	5	11	28	277	281
1869		13	2	13	24	273	275
Totals.....		851	260	412	499	——	——

was desired. On this assumption, we should have the whole 612 thus accounted for:—

62 as dead, being in a state of insanity at the time of death,
117 as dead, being in a state of sanity at the time of death,
139 as living, and in a state of insanity,
and 294 as living, and in a state of sanity.

If we combine these figures with the figures in paragraph 2, we find that the 1297 patients admitted for the first time into the asylum in 1858 are accounted for in 1870, or 12 years after, in the following manner:—

(1.) As insane—			
(a.) Dead—while in the asylum ...	412		
„ —after leaving the asylum	62		
	——	474	
(b.) Alive—in the asylum	273		
„ —out of the asylum	139		
	——	412	
		——	886
(2.) As sane—			
(a.) Dead—after leaving the asylum		117	
(b.) Alive—out of the asylum.....		294	
		——	411
Total			1297

2. These figures, however, lose much of their interest, if they are not examined in connection with the statement which gives the whole history from year to year of each patient separately. In this inquiry, a patient, however often he may be discharged either as recovered or as unrecovered, or however often he may be re-admitted, counts throughout as one and the same patient. The effect of being able thus to deal individually with the 1297 patients will be apparent, when we discuss separately the discharges of the recovered and the unrecovered, the re-admissions, and the deaths.

(*a.*) *Recoveries.*

1. The table shows that the 1297 patients yielded during the 12 years 851 discharges of recovered patients, or 65·6

Giving the figures in percentages, we have the 1297 patients accounted for thus:—

1.	As dead in the asylum	31·7 p.c.	
	As dead after leaving the asylum but insane at the time of death	4·9 p.c.	
			36·6 p.c.
2.	As still alive, and in the asylum	21·0 p.c.	
	As still alive, but out of the asylum, and in a state of insanity	10·7 p.c.	
			31·7 p.c.
	Yielding a total, for all those who had either died in a state of insanity, or were still living in a state of insanity, of		68·3 p.c.
3.	As having died out of the asylum, being in a state of sanity at the time of death	9·0 p.c.	
	As still alive, and in a state of sanity	22·7 p.c.	
			31·7 p.c.
			100·0

More briefly stated, these figures stand thus:—

36·6 p.c. are found to have died, being in a state of insanity at the time of death,

31·7 p.c. are found to be still alive and still insane,

and 31·7 p.c are found to be either still alive and sane, or to have died being in a state of sanity at the time of death.

These calculations are given in a foot note, because they involve the assumption (which I believe to be a safe one) that the 201 patients, regarding whose condition no trustworthy information was obtained, would present substantially the same results as the similarly situated patients regarding whom satisfactory information was secured. In no other part of the paper is anything introduced which involves any assumption.

p. c. If we add the re-admissions (499) to the admissions (1297) we have 1796, of which number the whole recoveries tabulated constitute 47·3 p. c.

2. But these 851 discharges refer only to 538 patients, who are 41·5 p. c. of the patients admitted, and 30·0 p. c. of the patients admitted and re-admitted taken together.

3. Of the 538 patients who were at any time during the 12 years discharged as recovered it is found that—

67 were re-admitted and were found in the asylum at the end of the 12 years,
33 were re-admitted and died in the asylum,
and 9 were re-admitted and were ultimately discharged as unrecovered.

Total 109.

If we deduct these (109) from the whole number of patients ever discharged as recovered (538), we have 429 as the number of patients who permanently disappeared from the asylum as recovered—that is, 33·0 p. c. of the original number admitted, and 23·8 p. c. of the numbers both of the admitted and of the re-admitted taken together.

4. A large proportion of the recoveries occurred in the case of patients who had not been longer than from a year to a year and a half in the asylum. Of the 538 patients, who were at any time during the 12 years discharged as recovered, 505, or about 94 p. c., were so discharged during the first two years.

5. The recoveries, which occurred during these first two years, appear to have been the most satisfactory of all the recoveries which took place. We have evidence of this in the facts that 295, or 58·4 p. c., of the 505 patients discharged as recovered during these two years never entered the asylum again, and that 263 of these 295 patients are included in the total number of patients (411) who appear to have been either alive and sane at the end of the 12 years, or to have died in a state of sanity during those years.

6. If we take the three first instead of the two first years, these results are still better marked. Thus:—Of the whole

number of patients ever discharged as recovered (538) we have 515, or about 96 p. c., who were so discharged during the first three years, leaving only 23 to be for the first time discharged as recovered during the other 9 years, viz., 7 in 1861, 5 in 1862, 3 in 1863, 2 in 1864, 2 in 1865, and 1 in each of the 4 last years. Of this small group of 23 patients, who were from 3 to 12 years continuously in the asylum before being discharged as recovered, it happens that no fewer than 15 are accounted for as being among the insane still at the end of the 12 years—some being alive and insane, and others having died in a state of insanity.

7. In view of these statements it may be asked how there can be 13 recoveries registered in the last of the 12 years. The explanation is simple :—11 of the 13 recoveries registered in 1869 refer to patients re-admitted in 1868 or 1869. So it is with the recoveries in the other years towards the close of the duodecennial period: they are almost entirely recoveries after recent re-admission.

(*b.*) *Re-admissions.*

1. The whole number of re-admissions is 499, but the number of patients in whose history re-admission appeared is only 316.

2. It follows, of course, that some patients must have been often discharged and often re-admitted. So true is this, that it is found that 81 patients contributed 264, or more than one half (52·9 p. c.) of the whole re-admissions—45 patients being re-admitted twice, 11 three times, 9 four times, 7 five times, 3 six times, 3 seven times, 2 ten times, and 1 eleven times.

3. Re-admission presented itself somewhat more frequently in the history of patients discharged as recovered, than in the history of patients discharged as unrecovered—234 patients discharged as recovered giving 404 re-admissions, and 82 patients discharged as unrecovered giving 95 re-admissions.

(*c.*) *Discharge of the unrecovered.*

1. The number of patients discharged as unrecovered is in

the first year 21 p. c. of the mean number resident. In no other year is it above 8 p. c. In one year it is below 1 p. c. The average for the last 8 years is between 2 and 3 p. c.

(*d.*) *Deaths.*

1. Of the 1297 patients admitted, it is found that 412, or 31·7 p. c. had died in the asylum during the 12 years.

2. Of these 412 patients who died in the asylum, it appears that 370, or about 90 per cent., had died in it without ever having left it after admission. In other words, of all the patients who died in the asylum 90 p. c. had never been out of it after admission. Of those who thus entered the asylum to die there, 103 died during the first year after admission, 76 during the second year, 51 during the third year, and so on—10 of the 13 who died during the twelfth year never having been out of the asylum, and all of the 14 who died in the seventh year having been 7 years in the asylum.

3. The 499 patients, in whose history re-admission appeared, yielded only 41 of the 412 deaths.

4. The rate of the mortality during the first 3 years was 24·8, 11·4, and 10·8 per cent. of the mean number resident. During the next three years it fell to 7·3, 8·4, and 6·4 p. c.; and during the last 6 years it fell still further, and was generally about 4·0 p. c., only once rising to 6·0 p. c.

5. The mean age of the whole number of patients admitted was 39·6 years. The mean age of the 103 who died during the first year was 49·5 years. The mean age of the 24 who died during the last two years was 55·8 years at the time of their death. The mean age of the 273 patients who were found remaining in the asylum at the end of the 12 years was 47·9.

6. The deaths of the first year thus occurred among the older of the patients admitted—the mean age of those who died being 10 years above the mean age of the admitted. Entering still further into details, it appears that of the 103 patients who died during the first of the 12 years, 11 were between 70 and 80 years old, 17 between 60 and 70, 17

between 50 and 60, and 25 between 40 and 50. In other words, about 70 p. c. were above the mean age of the admitted.

7. Many of the very aged are thus immediately and finally disposed of, but there occurs coincidently a final disposal of many of the younger by permanent recovery, so that the mean age of those who remain at the end of the first year does not differ much from the mean age of the admitted.

8. Those remaining at the end of the 12 years are made up largely of the younger of the patients originally admitted. Their mean age at the end of the 12 years was 47·9 years, so that their mean age at the time of admission must have been 35·9, or about 4 years below the mean age of all admitted.

9. The patients who died during the two last years had a mean age of 55·6 years, and were older than those who died during the first year, whose mean age was only 49·5 years. Their age at the time of admission was also above that of the mean. The range, however, between the ages of the oldest and youngest of those who died in the two last years was much lower than the range in the case of those who died in the first two years.

10. It thus appears that the lower death rate of the later years is not supplied by a younger but by an older population.

IV. Concluding remarks.

1. All these things might possibly be found to be not even substantially true of a second group of patients who were admitted for the first time during some other year and whose history was examined in the same way. It happens however, that we possess evidence that the study of such a second group would, in fact, yield results which would be in very close accord with all that has been disclosed regarding the 1297 patients admitted for the first time in 1858. This evidence is furnished by the following table, which I extract from the 18th Report of the Scotch Board of Lunacy (p. xx.). If it is compared with the table given in this paper (p. 509), the progressive history of the one group of patients will be found to resemble that of the other in a very striking manner.

Year.	Admitted.	Discharged.			Readmitted	Remaining at 31 Dec. of each year.
		Recovered.	Not recovered.	Dead.		
1868	1319	305	97	107	38	848
1869		209	70	94	83	558
1870		51	23	60	40	464
1871		38	25	48	42	395
1872		26	13	28	39	367
1873		23	15	25	26	330
1874		15	11	13	23	314
1875		16	9	13	21	297

2. I have confined myself as much as possible in this paper to a mere statement of the results of an inquiry, which, so far as I know, has not previously been made, and which in some directions teaches new lessons, and in others gives precision and certainty to opinions already entertained.

On the Prevalence of the Causes of Insanity among the Ancients. By D. Hack Tuke, M.D., F.R.C.P.

(*Concluded from* p. 381.)

Passing from the Egyptians to the Greeks and Romans, we proceed to pursue, in regard to these, the same line of enquiry as that which we have already attempted in regard to other nations. Were their habits, their social life, the character of their civilization, such as to lead us to expect that there must have existed among them, in any well marked degree, the clearly recognised causes of insanity? In this investigation we must carefully distinguish between their early and heroic age and the period of their highest culture and refinement, otherwise we shall fall into the error of comprising under the same term widely different conditions of society, and in the endeavour to compare them with our own —that is to say, modern civilized life—shall draw a totally false inference. The seeds of insanity may have been widely sown among the people of one age, and but sparsely among those of another. We have abundant evidence in the immortal verse of Homer of the general character of the